

ST. JOHN STREET PLAZA

What is a hundred-year flood? It is a common misconception that this term refers to a flood that happens once every 100 years. In reality, it defines a flood that has a 1% chance of happening in any given year.

The St. John Street Plaza, where you currently stand, sits above one of two underground bypass channels. These channels take in water that the Los Gatos Creek cannot hold and carries it downstream into the Guadalupe River. Bypass channels play a significant role in protecting downtown San José from flooding by diverting underground, water that would have overflowed the creek emptying it downstream, north of Coleman Avenue, where the floodplain is wider.

The underground bypass system is, in a sense, an auxiliary river. In the event of a 100-year flood, 10,000 cubic feet of water per second would be diverted through the system – with 7,000 cubic feet per second remaining in the natural streambed. Even with the floodwater diverted, the river will still expand, and engineers have used another form of “hardscape” called a gabion to keep the natural banks from eroding. Some gabions are walls while others are bundles of rocks held inside wire baskets that are arranged like a staircase up the river. The stream’s natural vegetation grows through the crevices in these rock-filled baskets.

Ideally, a river has room to create its own channels and banks, but an urban river such as the Guadalupe, which runs close to buildings and highways, needs to be controlled. The good news is that hydraulic technology and stream restoration allow us to both protect the city from floods and sustain a balanced environment for people and wildlife. In this instance, by using bypass channels, engineers have avoided excavating the natural river and further disturbing fish and wildlife.